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(54) Illumination system and display device

(57) An illumination system comprises a polarised light source (10, 12, 14, 16) which emits circularly polarised light of a particular handedness and a cholesteric filter (18) having a region arranged to transmit circularly polarised light falling within a first wavelength band and to reflect other wavelengths of circularly polarised light. A reflector (12) redirects the reflected light back towards

the cholesteric filter (18). The cholesteric filter (18) may comprise a first layer (20) having portions which reflect red, green and blue light while transmitting other colours, and a second layer (22) identical to the first layer (20) but out of alignment therewith so that each region of the filter (18) transmits only one colour of light, the other colours being reflected.

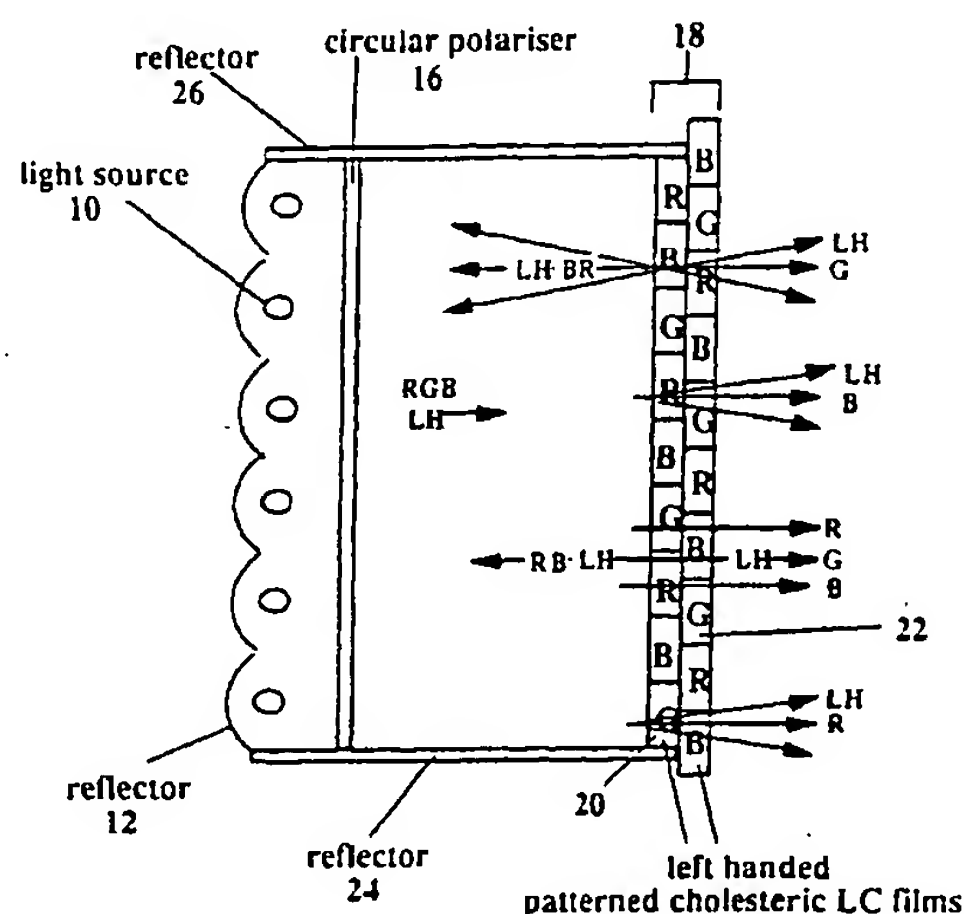


Figure 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 9518

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	SID INTERNATIONAL SYMPOSIUM DIGEST OF TECHNICAL PAPERS, SAN JOSE, JUNE 14 - 16, 1994, vol. 25, 14 June 1994, MORREALE J, pages 399-402, XP000462723 MAUER R ET AL: "CHOLESTERIC REFLECTORS WITH A COLOR PATTERN" * page 401 *	1,3	G02F1/1335
A	--- PATENT ABSTRACTS OF JAPAN vol. 018, no. 423 (P-1783), 8 August 1994 & JP 06 130424 A (SANYO ELECTRIC CO LTD), 13 May 1994, * abstract *	1-3,5-7, 28	
A	--- PATENT ABSTRACTS OF JAPAN vol. 017, no. 387 (P-1576), 20 July 1993 & JP 05 066476 A (FUJITSU GENERAL LTD), 19 March 1993, * abstract *	1,27-29	
A	--- EP 0 578 302 A (PHILIPS) 12 January 1994 * column 5, paragraph 3 - column 6, paragraph 2; figures 3,4 *	1-5,8,28	TECHNICAL FIELDS SEARCHED (Int.Cl.6) G02F F21V G02B
D,A	--- US 5 295 009 A (BARNIK) 15 March 1994 * column 5, line 35 - column 6, line 15; figure 6 *	1-3	
A	--- INTERNATIONAL PROCEEDINGS OF THE SID DIGEST OF TECHNICAL PAPERS, 1 May 1990, pages 110-113, XP000574117 MAURER R ET AL: "POLARIZING COLOR FILTERS MADE FROM CHOLESTERIC LC SILICONES" * page 111, last paragraph - page 112, paragraph 1; figure 6 *	1,5-7	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 February 1997	Examiner Wongel, H
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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